

In the Claims:

Please amend Claims 6-10, 19-21, 24, 25, 28-39, and 41-47 as follows:

6. Apparatus for post-treatment of a stenosed region of an artery that has been reduced by angioplasty or other procedure comprising:

a radioactive dose for emitting radiation;

a catheter; and

a positioner providing slidable motion of the radioactive dose within the catheter, the positioner arranged for advancing said dose within the stenosed region of an artery that has been reduced by angioplasty or other procedure, said positioner also being operatively connected to said dose for positioning the dose between a first position and a second position, wherein in the first position the dose is positioned within the artery in a non-deployed configuration and a second position wherein the dose is in a deployed configuration and exposed through a window in the catheter for treating at least a portion of the stenosed region of the artery, said positioner being operatively connected to said dose for withdrawing said dose from the artery after said radioactive dose is exposed to the stenosed region for a period of time sufficient to inhibit restenosis of the stenosed region.

7. The apparatus of Claim 6, wherein the dose is in solid form.

8. The apparatus of Claim 6, wherein the dose is in liquid form.

9. The apparatus of Claim 6, wherein the dose is in gaseous form.

10. Apparatus for post treatment of a stenosed region of an artery that has been reduced by angioplasty or other procedure comprising:

a radiation source; and

a catheter having at least one lumen adapted to deliver said radiation source within the stenosed region of an artery that has been reduced by angioplasty or other procedure, said catheter also being adapted to at least partially reposition relative to the radiation source for treatment when positioned within the stenosed region of an artery, the catheter being adapted to at least partially reposition to withdraw said radiation source from the artery after said radiation source is exposed to the stenosed region for a period of time sufficient to inhibit restenosis of the stenosed region.

19. The apparatus of Claim 10, wherein the catheter includes a balloon inflated by a fluid having the radiation dose means incorporated therein.

20. The apparatus of Claim 6, wherein the radioactive dose for emitting radiation is positioned within the catheter, the catheter defining a housing, wherein in the first position the dose is shielded from treating the stenosed region and in the second position the housing is deployed to at least partially expose the dose to the stenosed region of the artery.

21. The apparatus of Claim 20, wherein in the second deployed position a sheath is withdrawn relative to the dose positioned in the stenosed region to expose the stenosed region to the dose.

24. The apparatus of Claim 10, wherein the catheter includes a balloon with the radiation source for emitting radiation incorporated into and enclosed within the material of the balloon and the balloon is expanded in the second deployed configuration positioning the balloon at least partially in contact with the stenosed region of the artery.

25. The apparatus of Claim 24, wherein the portion of the device that is expanded includes a balloon with the radiation source positioned on the surface of the balloon.

28. The apparatus for post-treatment of a stenosed region of Claim 17, wherein the dose is a liquid.

29. The apparatus for post-treatment of a stenosed region of Claim 17, wherein the dose is a gas.

30. The apparatus for post-treatment of a stenosed region of Claim 24, wherein the dose incorporated into the balloon material is a solid.

31. The apparatus for post-treatment of a stenosed region of Claim 24, wherein the dose incorporated into the balloon material is a liquid.

32. The apparatus for post-treatment of a stenosed region of Claim 24, wherein the dose incorporated into the balloon material is a gas.

33. The apparatus for post-treatment of a stenosed region of Claim 6, wherein the apparatus controls the exposure of the dose by controlling the radial direction and axial position of the window.

34. (Amended) Apparatus for post-treatment of a stenosed region of an artery that has been reduced by angioplasty or other procedure comprising:

a radioactive dose for emitting radiation;

a catheter movable with respect to the dose; and

a positioner configured to advance said catheter and dose within of an artery that has been reduced by angioplasty or other procedure, said positioner also configured to position the catheter and dose between a first position and a second position, wherein in the first position the dose is positioned within the artery in a non-deployed configuration and a second position wherein the dose is in a deployed configuration and exposed through a

window in the catheter for treating at least a portion of the stenosed region of the artery,
said positioner configured to withdraw said catheter and dose from the artery after said
radioactive dose is exposed to the stenosed region for a period of time sufficient to inhibit
restenosis of the stenosed region.

35. The apparatus of Claim 34, wherein the dose is in solid form.

36. The apparatus of Claim 34, wherein the dose is in liquid form.

37. The apparatus of Claim 34, wherein the dose is in gaseous form.

38. The apparatus of Claim 34, wherein the radioactive dose for emitting
radiation is positioned within the catheter, the catheter defining a housing, wherein in the
first position the dose is shielded from treating the stenosed region and in the second
position the housing is deployed to at least partially expose the dose to the stenosed region
of the artery.

39. The apparatus of Claim 38, wherein in the second deployed position the
catheter is withdrawn relative to the dose positioned in the stenosed region to expose the
stenosed region to the dose.

41. Apparatus for post-treatment of a stenosed region of an artery that has been
reduced by angioplasty or other procedure comprising:

a radioactive dose for emitting radiation, wherein the radioactive dose is
incorporated into a liquid for delivery;

a catheter; and

a positioner providing slidable motion of the radioactive dose within the
catheter, the positioner arranged for advancing said dose within the stenosed region of an
artery that has been reduced by angioplasty or other procedure, said positioner also being

operatively connected to said dose for positioning the dose between a first position and a second position, wherein in the first position the dose is positioned within the artery in a non-deployed configuration and a second position wherein the dose is in a deployed configuration for treating at least a portion of the stenosed region of the artery, said positioner being operatively connected to said dose for withdrawing said dose from the artery after said radioactive dose is exposed to the stenosed region for a period of time sufficient to inhibit restenosis of the stenosed region.

42. The apparatus of Claim 10, wherein the radiation source is incorporated into a liquid for delivery.

43. Apparatus for post-treatment of a stenosed region of an artery that has been reduced by angioplasty or other procedure comprising:

a radioactive dose for emitting radiation, wherein the radioactive dose is incorporated into a liquid for delivery;

a catheter movable with respect to the dose; and

a positioner configured to advance said catheter and dose within of an artery that has been reduced by angioplasty or other procedure, said positioner also configured to position the catheter and dose between a first position and a second position, wherein in the first position the dose is positioned within the artery in a non-deployed configuration and a second position wherein the dose is in a deployed configuration for treating at least a portion of the stenosed region of the artery, said positioner configured to withdraw said catheter and dose from the artery after said radioactive dose means is exposed to the stenosed region for a period of time sufficient to inhibit restenosis of the stenosed region.

44. Apparatus for post-treatment of a stenosed region of an artery that has been reduced by angioplasty or other procedure comprising:

a radioactive dose for emitting radiation;

a catheter for delivering the radioactive dose to and removing the radioactive dose from the stenosed region of an artery that has been reduced by angioplasty or other procedure; and

a positioner configured to move the catheter and the radioactive dose with respect to one another to move the radioactive dose from a non-deployed and shielded position to a deployed and unshielded position, wherein the dose is exposed through a window in the catheter for a period of time sufficient to inhibit restenosis of the stenosed region.

45. Apparatus for post-treatment of a stenosed region of an artery that has been reduced by angioplasty or other procedure comprising:

a radioactive dose for emitting radiation, wherein the radioactive dose is incorporated into a liquid for delivery;

a catheter for delivering the radioactive dose to and removing the radioactive dose from the stenosed region of an artery that has been reduced by angioplasty or other procedure; and

a positioner configured to move the catheter and the radioactive dose with respect to one another to move the radioactive dose from a non-deployed and shielded position to a deployed and unshielded position for a period of time sufficient to inhibit restenosis of the stenosed region.

46. The apparatus of Claim 10, wherein the radiation source provides a radiation dose to the stenosed region through a window in the catheter.

47. Apparatus for treatment of a lesion site in an artery with radiation comprising:

a radioactive dose for emitting radiation, wherein the radioactive dose is incorporated into a liquid for delivery;